

Claims 1, 10, 14, 17, 18, 21 and 29 are amended as indicated below.

Claims 7, 8 and 16 are cancelled without prejudice.

Claims 1-6, 9-15 and 17-31 remain in the application and are listed as follows:

1. (Currently Amended) A system for managing changes in state of a navigation-based application, comprising:

a journal engine for maintaining a journal, the journal being associated with a container that navigates to and hosts a resource, the resource including a mechanism for causing to be stored in the journal a journal entry that includes information about a change in state of the resource, the journal entry being operative to restore the resource to the state prior to the change, wherein the journal maintains navigation-related information about locations to which a user has navigated and is configured to provide users backward and forward access to: (1) navigation activities in which the user has navigated backward and forward through distinct resources, and (2) activities where a user has not conducted a physical navigation away from a resource but rather has changed a state of a resource.

wherein the backward and forward access is implemented using stack-based techniques, wherein:

individual journal entries can be replayed to return a new journal entry that undoes a previously-performed action,

wherein if a journal entry is being replayed as a result of a backward navigation, an associated returned journal entry is placed in a forward stack, and

1 if the journal entry is being replayed as a result of a forward
2 navigation, an associated returned journal entry is placed in a back stack.

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4 2. **(Original)** The system recited in claim 1, wherein the change in
5 state of the resource is initiated by input from a user interacting with the resource.

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7 3. **(Original)** The system recited in claim 1, wherein the resource is
8 associated with a navigation-based application.

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10 4. **(Original)** The system recited in claim 2, wherein the navigation-
11 based application comprises a plurality of resources and includes a mechanism for
12 navigating among each of the plurality of resources.

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14 5. **(Original)** The system recited in claim 3, wherein the navigation-
15 based application is browser-hosted.

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17 6. **(Original)** The system recited in claim 3, wherein the navigation-
18 based application is stand-alone.

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20 7.-8. **(Canceled).**

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22 9. **(Original)** The system recited in claim 1, wherein the resource
23 further includes a mechanism for altering the state of the resource.

1 **10. (Currently Amended)** A computer-readable medium having
2 computer executable components for managing changes in state of a navigation-
3 based application, comprising:

4 a resource including a mechanism for altering a state of the resource from a
5 first state to a second state; and

6 a description of a journal entry having a method for restoring the resource
7 from the first state to the second state, the method being further configured to
8 create a second journal entry to undo the restoration of the resource from the first
9 state to the second state, wherein the method adds to a forward stack when the
10 method is called on a back navigation, and adds to a back stack when the method
11 is called on a forward navigation,

12 wherein the journal entry comprises part of a journal that maintains
13 navigation-related information about locations to which a user has navigated and
14 resources whose state has been changed by the user.

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16 **11. (Original)** The computer-readable medium of claim 10, wherein
17 the resource is further configured to cause the journal entry to be added to a
18 journal that includes information about navigations among a plurality of resources.

19
20 **12. (Original)** The computer-readable medium of claim 10, wherein
21 the resource is a component of the navigation-based application.

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23 **13. (Original)** The computer-readable medium of claim 10, wherein
24 the navigation-based application includes a plurality of resources that are
25 hyperlinked together.

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2 **14. (Currently Amended)** A computer-readable medium encoded
3 with a data structure, the data structure comprising:

4 a journal entry having a Replay method, the Replay method being
5 configured to restore a resource from a first state to a second state, the Replay
6 method being further configured to create a second journal entry to restore the
7 resource from the second state to the first state, wherein the journal entry
8 comprises part of a journal that maintains navigation-related information about
9 locations to which a user has navigated and is configured to provide users
10 backward and forward access to: (1) navigation activities in which the user has
11 navigated backward and forward through distinct resources, and (2) activities
12 where a user has not conducted a physical navigation away from a resource but
13 rather has changed a state of a resource, wherein the backward and forward access
14 is implemented using stack-based techniques, wherein:

15 individual journal entries can be replayed to return a new journal
16 entry,

17 wherein if a journal entry is being replayed as a result of a backward
18 navigation, an associated returned journal entry is placed in a forward stack, and

19 if the journal entry is being replayed as a result of a forward
20 navigation, an associated returned journal entry is placed in a back stack.

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22 **15. (Original)** The computer-readable medium of claim 14, wherein
23 the resource comprises a component of a navigation-based application.

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25 **16. (Canceled).**

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2 **17. (Currently Amended)** The computer-readable medium of claim
3 [[16]] 14 , wherein the journal is associated with a window of [[the]] a navigation-
4 based application.

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6 **18. (Currently Amended)** The computer-readable medium of claim
7 [[16]] 14, wherein the journal is associated with a session.

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9 **19. (Original)** The computer-readable medium of claim 18, wherein
10 the session comprises a browser session.

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12 **20. (Original)** The computer-readable medium of claim 18, wherein
13 the session comprises a lifetime of the navigation-based application.

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15 **21. (Currently Amended)** A software architecture for managing
16 changes in state of a navigation-based application, comprising:

17 an internal system that supports the maintenance of entries in a journal, the
18 journal being operative to maintain state information related to navigations among
19 resources in a navigation-based application; and

20 a set of interfaces that support the inclusion of entries in the journal, the
21 journal entries being related to non-navigation activity,

22 wherein the journal maintains navigation-related information about
23 locations to which a user has navigated and is configured to provide users
24 backward and forward access to: (1) navigation activities in which the user has
25 navigated backward and forward through distinct resources, and (2) activities

1 where a user has not conducted a physical navigation away from a resource but
2 rather has changed a state of a resource, wherein the backward and forward access
3 is implemented using stack-based techniques, wherein:

4 individual journal entries can be replayed to return a new journal
5 entry,

6 wherein if a journal entry is being replayed as a result of a backward
7 navigation, an associated returned journal entry is placed in a forward stack, and

8 if the journal entry is being replayed as a result of a forward
9 navigation, an associated returned journal entry is placed in a back stack.

10
11 **22. (Previously Presented)** The software architecture recited in
12 claim 21, wherein the set of interfaces includes an AddEntry method for adding a
13 journal entry to the journal.

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15 **23. (Original)** The software architecture recited in claim 21, wherein
16 the set of interfaces includes a RemoveEntry method for removing a journal entry
17 from the journal.

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19 **24. (Original)** The software architecture recited in claim 23, wherein
20 the RemoveEntry method is further configured to remove a journal entry from a
21 Back stack portion of the journal.

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23 **25. (Original)** The software architecture recited in claim 21, wherein
24 the set of interfaces is provided by a base class having a Name property that
25 identifies a name of the journal entry in the journal.

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2 **26. (Original)** The software architecture recited in claim 21, wherein
3 the set of interfaces is provided by a base class having a Replay method
4 configured to restore a resource from a first state to a second state.
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6 **27. (Original)** The software architecture recited in claim 26, wherein
7 the Replay method is further configured to create and return a second journal entry
8 for inclusion in the journal.
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10 **28. (Original)** The software architecture recited in claim 27, wherein
11 the second journal entry is configured to restore the resource from the second state
12 to the first state.
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1 **29. (Currently Amended)** A computer-readable medium encoded
2 with computer-executable instructions, comprising:

3 receiving a notification to add a journal entry to a journal, the journal entry
4 being associated with a resource, the journal entry including sufficient information
5 to restore the resource from a first state to a second state, the first state being
6 associated with a first set of characteristics of the resource, the second state being
7 associated with a second set of characteristics of the resource; and

8 adding the journal entry to the journal,

9 wherein the journal maintains navigation-related information about
10 locations to which a user has navigated and is configured to provide users
11 backward and forward access to: (1) navigation activities in which the user has
12 navigated backward and forward through distinct resources, and (2) activities
13 where a user has not conducted a physical navigation away from a resource but
14 rather has changed a state of a resource, wherein the backward and forward access
15 is implemented using stack-based techniques, wherein:

16 individual journal entries can be replayed to return a new journal
17 entry,

18 wherein if a journal entry is being replayed as a result of a backward
19 navigation, an associated returned journal entry is placed in a forward stack, and

20 if the journal entry is being replayed as a result of a forward
21 navigation, an associated returned journal entry is placed in a back stack.

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23 **30. (Original)** The computer-readable medium of claim 29, wherein
24 the journal entry further comprises a mechanism for restoring the resource from
25 the second state to the first state.

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2 **31. (Original)** The computer-readable medium of claim 30, wherein
3 the mechanism is configured to create a second journal entry having sufficient
4 information to restore the resource from the second state to the first state.
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